Initial Environmental Examination

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November 2020

IND: Agartala City Urban Development Project – Revival and Restoration of Ujjayanta Palace Complex in Agartala City PART B

Prepared by Project Management Unit, Agartala Smart City Limited, Government of Tripura for the Asian Development Bank.

Species name	Common name	IUCN Category	Taxonomic Class
Sphyrna mokarran	Great hammerhead	EN	Chondrichthyes
Sterna acuticauda	Black-bellied tern	EN	Aves
Stichopus herrmanni		VU	Holothuroidea
Thelenota ananas		EN	Holothuroidea
Tor putitora		EN	Actinopterygii
Trachypithecus phayrei	Phayre's leaf-monkey	EN	Mammalia
Trachypithecus pileatus	Capped langur	VU	Mammalia
Ursus thibetanus	Asiatic black bear	VU	Mammalia

IBAT

Recommended citation

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How to use this report

This report provides an indication of the potential biodiversity-related features - protected areas, key biodiversity areas and species - close to the specified location. It provides an early indication of potential biodiversity concerns, and can provide valuable guidance in making decisions. For example, this information can be helpful when assessing the potential environmental risk and impact of a site, categorising investments/projects, preparing the terms of reference for an impact assessment, focusing attention on key species of conservation concern and sites of known conservation value, and reviewing the results of an impact assessment.

The report does not provide details of potential indirect, downstream or cumulative impacts. Furthermore, the report should be regarded as a "first-step", providing a set of conservation values sourced from global data sets, and is not a substitute for further investigation and due diligence, especially concerning national and/or local conservation priorities.

Appendix 13: Heritage Impact Assessment Report

HERITAGE IMPACT ASSESSMENT REPORT

OF

REVIVAL AND RESTORATION OF UJJAYANTA PALACE COMPLEX

DOCUMENT NUMBER: TCE.10918A-CH-2008-ER-01

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Project Title:	**PROJECT MANAGEMENT CONSULTANT (PMC) FOR AREA BASED DEVELOPMENT (AGARTALA CITY) FOR AGARTALA SMART CITY LIMITED.** (IMPLEMENTATION OF SMART CITY PROJECTS UNDER SMART CITY MISSION IN AGARTALA CITY)
Client:	**AGARTALA SMART CITY LIMITED (ASCL)**
ABD Consultant:	**TATA CONSULTING ENGINEERS LIMITED**
PAN City Consultant:	**PRICEWATERHOUSECOOPERS**
LOA No.:	**F.2 (ASCL) 2016-17/ 333-36-2017**
Project Document No.:	**TCE.10918A-CH-2008-ER-01**
Revision No.:	**R0**
Document Description:	**HERITAGE IMPACT ASSESSMENT OF REVIVAL AND RESTORATION OF UJJAYANTA PALACE COMPLEX**

REVISION STATUS

S. No.	Revision No.	Prepared By	Checked By	Passed By	Submitted On	Purpose
1.	R0	NM			03-11-2019	For Submission

Executive Summary

This report has been prepared for Asian Development Bank (ADB) to assess the impact of the proposed Revival and Restoration of Ujjayanta Palace Complex in Agartala.

The project site is the most popular tourist destination of Agartala. The gleaming white Ujjayanta Palace located in the capital city of Agartala evokes the age of Tripura Maharajas. The Palace building is set in large designed landscaped gardens flanked by twin lakes at the front. It was earlier used as the State Assembly Building and since 2011 it houses the Tripura State Museum. The use of the Palace building has been under transformation from private property to semi-public and currently a public property, one of the major tourist destinations. The Palace complex now lacks the tourism infrastructure facilities and public amenities and it needs revival of the existing fabric and re-establishing the integrity of the complex.

The proposed development undertakes planned interventions to enhance the usability of the entire palace complex by providing public amenities. The interventions aim to convert the Ujjayanta Palace precinct into a vibrant urban space that would provide the visitor a comprehensive introduction to the culture and heritage of Tripura inclusive of its chronological history, art and craft, food, handloom and bamboo industry amongst others. It is also expected to result in the increase of tourism and economic and entrepreneurial opportunities. Total estimated project cost is 37.24 Crores.

This report finds that the proposed development aims to respect the significant heritage fabric on the site while activating it with a compatible use, based on an evaluation of;

- **Heritage resources effected and their condition**

a) Ujjayanta Palace building is not touched
b) Restoration of North Gate proposed as it in moderate condition
c) Adaptive re-use of Astabal structure, presently in bad condition

- **Proposed development**

a) Restoration of the Fountains in front and rear garden
b) Revival of the twin lakes with lake cleaning technologies
c) Facilitating the twin lakes with water activities and light and sound show
d) Integration of a designed food court
e) Revival of the rear garden with multi-activity plaza and refurbishment of the pathways
f) Restoration the north gate
g) Transformation of the Astabal structure by adaptive reuse
h) Safety for visitors
i) Sustainability of the project

- **Impact of proposed development on heritage resources**

The proposed development will have negligible impact on the existing site and its heritage resources as proposed design is well integrated with the existing fabric. And it focuses on the revival and provision of public amenities and boosting its tourism infrastructure related facilities. The Ujjayanta Palace building is not touched as it not under the scope of work.

- **Measures to mitigate**

In compliance with the requirements of Model Building Bye laws by CPWD Dept. and INTACH Charter for Conservation of Unprotected Architectural Heritage and Sites in India.

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1. INTRODUCTION

1.1 SCOPE OF REPORT

This Heritage Impact Assessment Report (HIA) has been prepared by Tata Consulting Engineers Limited to assess the impact of the proposed development on the heritage site of Ujjayanta Palace complex in Agartala City.

The purpose of an HIA, according to the guidelines of Asian Development Bank (ADB) is to assess the impacts of the proposed development on the cultural heritage resource and recommend an overall approach to the conservation of the heritage value of these resources.

This report was prepared with reference to the Model Building Byelaws applicable to heritage sites identified by the State Governments in India, INTACH Charter for Conservation of Unprotected Architectural Heritage and Sites in India.

1.2 SITE LOCATION AND DESCRIPTION

Ujjayanta Palace is located at the core of the Agartala city and is accessed by the Thakurpalli Road on the South and VIP road on the North. It has several temples and parks near the complex. The location of the palace precinct with respect to the ABD boundary has been shown below.

FIGURE 1 LOCATION MAP OF UJJAYANTA PALACE WITH RESPECT TO THE ABD BOUNDARY

The palace can be accessed by Thakurpalli Road on the southern side and VIP road on the northern side. It further has a network of two secondary roads on the western and eastern side. The complex has two demarcated gate structures i.e. North gate and South gate out of which South gate is the primary entry gate.

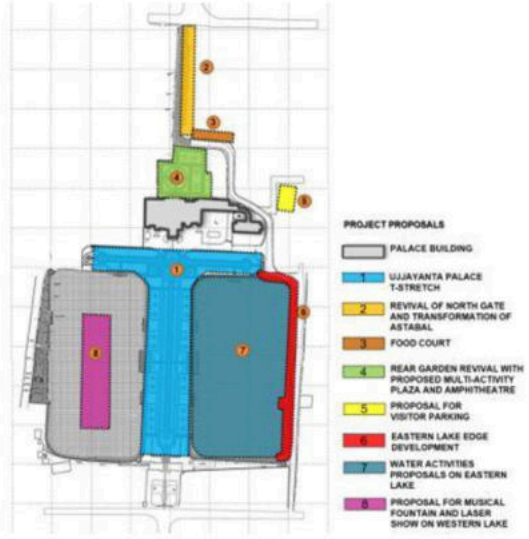

FIGURE 2 PLAN SHOWING COMPONENTS OF THE PALACE PRECINCT

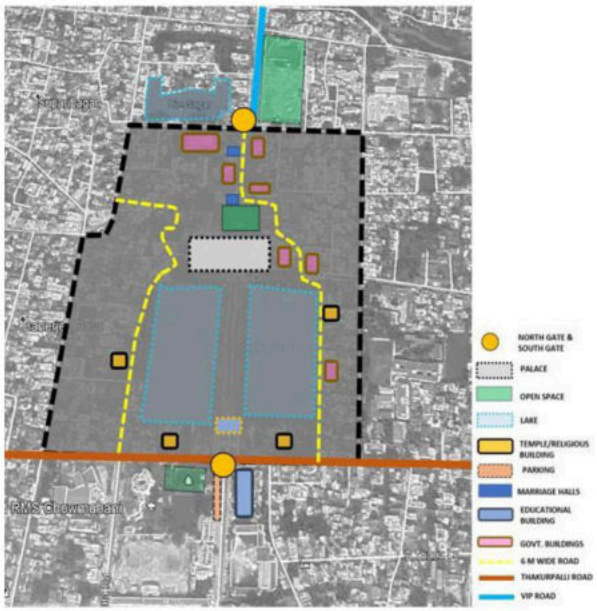

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FIGURE 8 REAR GARDEN

FIGURE 9 ASTABAL

1.3 EXISTING HERITAGE RECOGNITION

In the Tripura Tourism website, the Ujjayanta Palace Complex in Agartala city in the district of West Tripura is mentioned as a Heritage Site in addition to Neer Mahal Water Palace in Sepaijhala district, Bhubaneswari Temple in Udaipur city in Gomti district and Akhaura Check Post in Agartala city. (Appendix-1)

In the City Development Plan (CDP) for Agartala city initiated by Government of Tripura under the Jawaharlal Nehru National Urban Renewal Mission (JNNURM), a scheme of Government of India in 2006 the Ujjayanta Palace Complex has been mentioned as an architectural heritage site. (Appendix-2)

Heritage Listing

The Ujjayanta Palace Complex is not listed as a nationally protected heritage site under Archaeological Survey of India (ASI) and not as a State Protected heritage site under Archaeological Survey of India (ASI), Guwahati Circle.

1.4 ADJACENT & NEARBY HERITAGE PROPERTIES

There are no adjacent heritage sites to Ujjayanta Palace complex. There are religious sites like Jagannath Bari temple, Laxmi Narayan temple and Durga Bari temple adjacent to the Palace Precinct.

2. METHODOLOGY

Project Background

The Asian Development Bank (ADB) has requested Tata Consulting Engineers Limited to undertake a Heritage Impact Assessment (HIA), Preparation and submission of HIA report for the proposed Revival and Restoration of Ujjayanta Palace Complex in Agartala, Tripura. The client for the project is Agartala Smart City Limited (ASCL) and it is funded by ADB.

The Heritage Impact Assessment for the proposed Revival and Restoration of Ujjayanta Palace Complex in Agartala was undertaken by Tata Consulting Engineers Limited.

The team undertaking the HIA comprised of the following members:

HOD Architecture Dept. – Sangita Agrawal

Landscape Architect – Pratima Marwah

Urban Planner – Dipanjan Mitra & Prasad Dharasurkar

Conservation Architect – Nandini Mukhopadhyay

The systematic assessment methodology for the heritage impact assessment report is in consonance with the requirements of Model Building Bye laws by CPWD Dept., ICOMOS Guidelines and INTACH Charter for Conservation of Unprotected Architectural Heritage and Sites in India.

Assessment Methodology

2.1 SCOPING AND DEFINITION OF ASSESSMENT AREA

Defining of the scope of the Heritage Impact Assessment report was undertaken based on the Guidelines of ADB for carrying out a HIA for assessing the impact of proposed development on the cultural heritage resources.

This is a Revival and Restoration of Ujjayanta Palace Complex in Agartala on a site area of approximately 15 acres. It includes the following projects:

a. Renovation and Restoration of Front Palace Gardens and Façade Illumination
b. Revival of North gate and transformation of Astabal Structure
c. Proposal for Food Court
d. Rear garden revival with multi-activity plaza and Amphitheatre
e. Proposal for Visitor Parking

f. Eastern lake edge development
g. Proposal for water activities in the eastern lake
h. Proposal for musical fountain and laser water show in the western lake

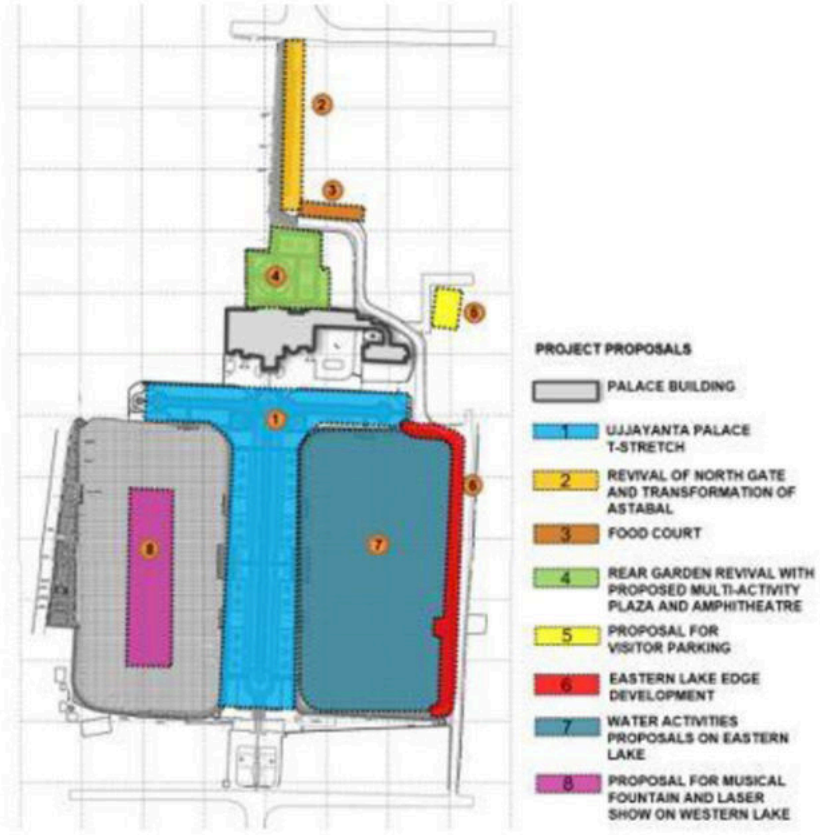

FIGURE 10 MAP SHOWING THE ASSESSMENT AREA

2.2 BASELINE DATA AND DOCUMENTATION

2.2.1 INITIAL EXAMINATION AND INTERPRETATION OF EXISTING CONDITIONS

Tata Consulting Engineers Limited contacted the following organizations for the certified authentic and validated information, survey maps, plans, measured architectural drawings and baseline

data regarding the heritage resources located within the potential impact area of the proposed Revival and Restoration of Ujjayanta Palace Complex in Agartala.

- Agartala Municipal Corporation (AMC)
- Department of Tourism, Government of Tripura
- Agartala Smart City Limited
- Tripura State Museum
- Technovation Engineering Services, Guwahati for Site Survey

Specific information on the sources referred for various stages of the conducted study are provided in the Bibliography.

2.2.2 SITE FIELD VERIFICATION AND BASE DOCUMENTATION FOR ANTICIPATED IMPACT

Site visits were undertaken on 01-03-2019, 08-04-2019, 21-05-2019 to Project Site by the Proposed Project design team and HIA team from Tata Consulting Engineers.

Base map was prepared along with accurate sections by the Proposed Project design team and the HIA team with the help of visual survey and photographic documentation. Site Survey drawings prepared by Technovation Engineering Services on behalf of TCE and Google earth map was also referred for the more recent development in within the assessment area.

Impacts and effects of the proposed project on the heritage resources were identified through the following:

- Site Visits and Surveys
- Verification of site data from secondary sources
- Condition assessment of heritage resources within the assessment area through visual survey, and
- Interaction with experts, residents and the project proponent

2.3 STATEMENT OF SIGNIFICANCE – IDENTIFICATION AND CHARECTARIZATION OF VALUES AND SIGNIFICANCE OF HERITAGE RESOURCES

Detailed Assessment of the existing cultural heritage resources in the Project site and its precinct has been carried out on the accepted norms and guidelines.

The history of the site and its locational significance has been studied in order to understand the importance of the heritage resources within the assessment area and their contribution to the architectural development over time.

A statement of significance of has been prepared by the Proposed Project design team and the HIA from Tata Consulting Engineers, describing the site and surroundings, history and chronology, architectural features, spatial configuration special features architectural features, spatial configuration and special features.

FIGURE 11 OLD PHOTOGRAPHS OF UJJAYANTA PALACE

Value have been assessed Proposed Project design team and the HIA from Tata Consulting Engineers using a matrix that incudes Historical value, Architectural value, Aesthetic value, Cultural value and Landscape value.

2-1 VALUE MATRIX TABLE

	MAIN CRITERION	SUB CRITERION
BUILT HERITAGE • NORTH GATE • ASTABAL AREA • CHHATRIS	Historical value	Moderately significant
	Architectural value	Average
	Aesthetic value	Modest
	Cultural value	Medium
HERITAGE LANDSCAPE • PALACE GARDENS • TWIN LAKES	Historical value	Moderately significant
	Landscape value	Modest

2.4 PROJECT IMPACT ANALYSIS

Development Appraisal to assess changes due to the proposed Revival and Restoration of Ujjayanta Palace Complex in Agartala has been undertaken by the HIA team from Tata Consulting Engineers after reviewing the design drawings, description and project data provided by Proposed Project design team from Tata Consulting Engineers.

The review has been done to determine that Proposed Project design team from Tata Consulting Engineers has made the proposal considering and in compliance with the pertinent laws, regulation and policies.

2.5 IDENTIFICATION OF POTENTIAL IMPACT ON HERITAGE RESOURCES

The various impacts on the Heritage resources of the proposed project of Revival and Restoration of Ujjayanta Palace Complex in Agartala have been categorized and compiled in the form of an Impact Matrix. For determining effects, the main criterion used is whether there is a possibility of the heritage resources location, setting, significant historical and architectural feature or use. Criteria used to determine whether effects are beneficial or adverse are related to the authenticity and integrity of the heritage resources location, design, setting, material, workmanship, feeling or association. The effects are categorized according to whether they are Direct (Primary) or Indirect (Secondary); Cumulative and Incremental or Single and one time; Short term or Long term; Temporary or Continuous; Occurring during the construction phase or the operational phase; Naturally reversible or Irreversible; Repairable via Mitigation measures and management practices or Irreparable.

2.6 STATEMENT OF HERITAGE IMPACT

Evaluation of significance of all direct and indirect impacts on the built heritage, natural resources and visual quality. A systematic approach has been followed for evaluation of significance of the site from the architectural heritage resources. The possible impact has been detailed out by evaluation of the available facts, professional judgement by experts and studies conducted within the assessment area of the palace complex. The assessment of magnitude and importance of the interaction between the proposed project and the different types of significant heritage resources have been undertaken and a statement of Heritage Impact prepared.

2.7 MANAGEMENT AND MITIGATION MEASURES FOR GENERAL ASSESSMENT AREA & SPECIFIC PROTECETD SITES

Possible measures required to avoid, minimize, rehabilitate and mitigate any adverse impact of the proposed project in the identified heritage resources within the assessment area are defined based on evaluation of alternative courses of actions, keeping in view the significance, present status, effectiveness and feasibility.

Any cumulative impacts that might be caused by the proposed project is studied and addressed. The mitigation measures that may be required are identified and classified based on the extent and type of Impact including:

- Project-site specific measures which are required for identification and rescue of any form of archeological remains. This also caters to the building materials and façade elements to reflect the historic character of the area.
- Building specific mitigation measures required for the identified heritage resources that are currently affected by unauthorized construction and irregular maintenance.
- Possibility for developing synergies because of any beneficial impact of the proposed project for improvement of environmental conditions

3. SITE HISTORY, DESCRIPTION OF THE HERITAGE ATTRIBUTES AND EXISTING CONDITION ANALYSIS

3.1 STATEMENT OF SIGNIFICANCE

The following Statement of Significance has been prepared by Tata Consulting Engineers Limited:
Ujjayanta Palace is a representative example of neoclassical style of early 20th century designed by Sir Alexander Martin for Maharaja Radha Kishore Manikya.
The complex of site area 800 acres comprises of the two storied Palace building with central dome, symmetrically landscaped grand entrance promenade in between two ponds, Chhatris, Rear garden, North gate and Astabal.
The palace has historical association to the Manikya dynasty, the rulers of Tripura before merger into India. Ujjayanta palace presently accommodates the State Museum of Tripura from 2011, formerly being used as State Legislative Assembly.
The site has provided opportunities for tourist attraction, knowledge source and social cohesion, as it also accommodates the Tourism Department office and a restaurant.

It is a Landmark structure in the city of Agartala with significant architectural, aesthetic, cultural value and huge associational value with the inhabitants of the state. It provides contextual value as it is historically and visually linked to its surroundings.

It has become an identity to the city for its rich cultural heritage asset which needs to be conserved.

3.2 STATEMENT OF AUTHENTICITY AND INTEGRITY:

The authenticity is considered in context to the materials used for the construction of the structures in the Palace complex. The materials used in North Gate is mainly brick and lime mortar with reinforcement bars. The integrity of the complex is gradually losing with the unmonitored development in the palace complex. The Ujjayanta Palace complex comes under the ownership of Government of Tripura and the responsibility of maintaining the property and collection of revenue goes to the Higher Education Department, Govt. of Tripura.

3.3 HERITAGE ATTRIBUTES:

- The Palace building's Neoclassical style of architecture, an architectural representative example.
- The materiality of the Palace and its annex buildings, predominantly of brick masonry and lime mortar with reinforcements.
- The central promenade with water fountains and landscaped garden.
- The views and vistas created from the main gate and north side entrance gate, rear garden of the complex and different corners of the city.
- The viewing axis from the central promenade to the palace building with symmetry created by two ponds.
- The grandeur of the palace building making it the focal point of the city.
- The use of the palace complex for diverse activities like State Museum, Office of Tourism Department and Restaurant.

3.4 EXISTING CONDITION:

The Ujjayanta palace is the most important tourist destination in Agartala and has the potential to showcase the culture and heritage of the state. The palace precinct (Rajbari) currently lacks a common identity and has been fragmented into discordant zones of disconnected functions. Currently, the tourism activities are confined to sightseeing only, resulting into underutilization of its potential. The sense of the palace complex is not apparent. The encroachment and unthoughtful development in its surroundings affect the aesthetic value of the site. Many heritage structures are in a state of disrepair. These areas have been surveyed and the gaps identified have been mentioned below.

3.4.1 UJJAYANTA PALACE FRONT GARDEN

The garden is located at the front of the palace building and can be accessed by the entry gate in the South. The garden presently is in a state of neglect and is in dire need of proper maintenance.

The gaps as identified after the site surveys have been mentioned below.

- The network of water retaining structure, fountains, have become non- functional.
- The garden lacks organized plantation, enhanced view of the huge lakes at both sides, variety of elements of interests like pathway, flower, good looking plants, vegetated sculptures, play furniture, maintained lawn etc.

- Due to uncontrolled growth of vegetation around the lake, the accessibility to its sides and visibility to the lake is highly obstructed.
- There are some heritage elements in the garden such as kiosks at corners of lake, ruined houses, boundary wall, gate house complex etc., which require restoration.

FIGURE 12 EXISTING CONDITION OF THE FRONT GARDEN

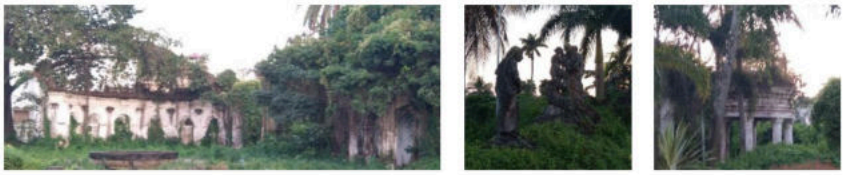

FIGURE 13 CHHATRIS, CURVED WALL, STATUES

3.4.2 NORTH GATE AND TRANSFORMATION OF ASTABAL

3.4.2.1 NORTH GATE

It is located on the Northern side of the Palace and serves as an entrance to the Palace precinct. It is in front of a Tri-junction and a 6m wide road further connects the North gate to the rest of the complex.

The gaps as identified after the site surveys have been mentioned below.

- Due to vegetation growth, the aesthetics of the gate has been disturbed.
- Surface cracks have developed on the structure due to lack of maintenance.
- Overhead wires and sticking of bills have also contributed to the poor aesthetics of the structure.

FIGURE 14 EXISTING CONDITION OF THE NORTH GATE

3.4.2.2 ASTABAL AREA

The Astabal is located at the rear portion of the palace building and can be accessed through the 6m wide road leading to the palace complex from the North Gate. The total stretch is 130m long and 5m wide. The structure is presently in a redundant and poor condition.

The gaps as identified after the site surveys have been mentioned below.

- Surface cracks have developed on the walls and ceiling and reinforcement has been exposed.
- The aesthetics of the structure has been compromised due to wild vegetation growth, overhead wires and sticking of bills as seen in the pictures below.
- The existing 6m road lacks in pedestrian facilities and is occasionally encroached by non-designated on street parking.

FIGURE 15 CRACKED CEILING AND WILD VEGETATION GROWTH ON THE EXISTING ASTABAL STRUCTURE

FIGURE 16 EXISTING STREETSCAPE IN FRONT OF THE ASTABAL STRUCTURE

3.4.3 SITE PROPOSED FOR FOOD COURT

The site proposed for the food court presently houses an old structure which is to be demolished. The plot dimensions are 60m x18m as per available data. It can be accessed through the 6m wide road and has a boundary wall on the periphery. The entire stretch of the road as mentioned in the previous sections lacks pedestrian facilities.

FIGURE 17 FRONT VIEW OF THE SITE PROPOSED FOR FOOD COURT

3.4.4 REAR GARDEN

It is located in the rear portion of the palace building and can be accessed through the 6m wide road. The approximate plot dimensions are 60m x60m as per available data and it has an existing fountain structure and some existing street lamps. While it has abundant greenery, overgrowth of wild vegetation can also be witnessed. The issues have been discussed below.

- The existing fountain is presently dysfunctional and needs repair.
- Overgrowth of wild vegetation on the pathways and lawns.
- The garden lacks shaded seating and furniture to make it usable for public use.
- The pathways are in a dilapidated state.

FIGURE 18 VIEW OF THE REAR GARDEN SHOWING THE EXISTING FOUNTAIN

3.4.5 SITE PROPOSED FOR VISITOR PARKING

The eastern lake in front of the palace can be accessed by the adjoining road. Approximate width available for development of the promenade is 3.5m which includes an existing 2m wide pathway. The existing site acts as a temporary parking space and lacks in designated parking bays.

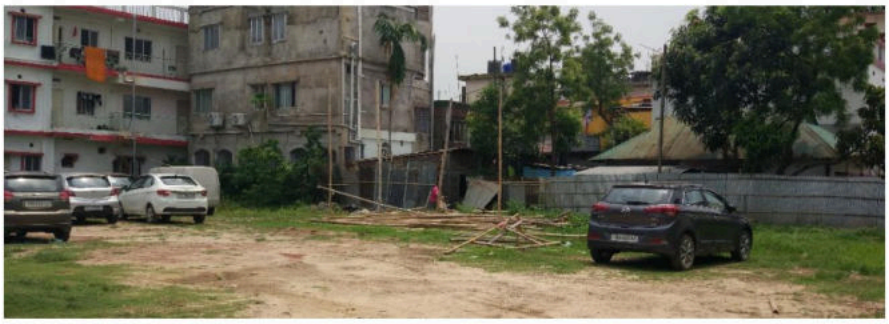

FIGURE 19 EXISTING SITE FOR VISITOR PARKING

3.4.6 EASTERN LAKE EDGE

The eastern lake in front of the palace can be accessed by the adjoining road. Approximate width available for development of the promenade is 3.5m which includes an existing 2m wide pathway. The current issues have been discussed below.

- Irresponsible disposal of solid waste in the edges of lake.
- The existing railing is in a dilapidated condition and needs refurbishment.
- The existing street furniture is not adequate in numbers and is not in a proper condition.
- The footpath has been encroached by the local vendor shops.

FIGURE 20 EXISTING CONDITION OF THE EASTERN LAKE EDGE SHOWING THE DILAPIDATED FOOTPATH AND VENDOR ENCROACHMENT

3.4.7 WESTERN LAKE

The eastern and western lakes are similar is dimensions and are separated by the Central front garden. The western lake has J.N. Bari temple and J.N. Bari park on the western side and can be accessed through a secondary road on the western side. The current issues have been discussed below.

- Irresponsible waste disposal can be seen near the western lake as well.
- The existing railing and street furniture are not in adequate condition.
- The overgrowth of wild vegetation can be seen around the lake.
- The access points to the lake edges are not clearly defined.

FIGURE 21 VIEW OF THE EXISTING WESTERN LAKE EDGE

4. DESCRIPTION OF THE DEVELOPMENT PROPOSED

After conducting a detailed study of the site and its surroundings, followed by a situation analysis report and a subsequent feasibility report, the following design elements and interventions have been arrived at.

4.1 DESIGN ELEMENTS

The Ujjayanta Palace Complex being one of the most important Heritage sites of Agartala City, every dilapidated and neglected element on it, needs to be restored and regained to its complete valor. Also, the elements being fragmented and non-functional at present, needs some amount of conservation-interventions, to integrate them with the rest of the functional portion of the site. In lieu of the above scenario, the site has been intensely scrutinized to identify six different zones, the elements of which deserve serious attention and suitable intervention. Based upon the existing site scenario, orientation of elements and connectivity, the following zones have been proposed for revival on the site:

1. Restoration of the Front Garden and Façade Lighting
2. Revival of the North gate and Transformation of Astabal
3. Construction of Food court
4. Revival of the Ujjayanta Palace Rear Garden
5. Revival of the Eastern Lake and its edge development
6. Revival of the Western Lake
7. Provision for Visitors Parking

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- FOOD COURT
- REAR GARDEN
- PROPOSAL FOR VISITOR PARKING
- FRONT GARDEN REVIVAL
- EASTERN LAKE EDGE DEVELOPMENT
- WATER ACTIVITIES PROPOSAL ON EASTERN LAKE
- PROPOSAL FOR MUSICAL FOUNTAIN AND LASER SHOW ON WESTERN LAKE

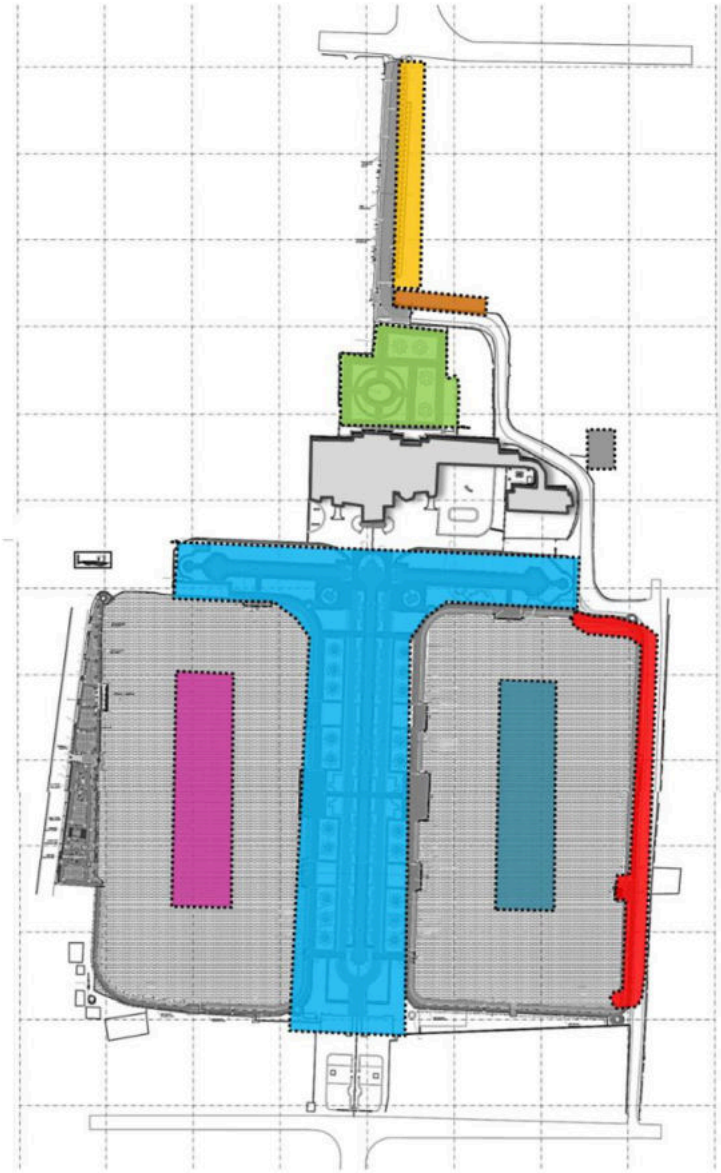

FIGURE 22 MASTERPLAN OF UJJAYANTA PALACE PRECINCT

2-2 INTERVENTIONS TABLE

Areas/ Interventions	Restoration	Revival	Redevelopment	Adaptive reuse	Changes in original design
North gate	✓				
Astabal	✓			✓	
Front garden	✓	✓			
Rear garden		✓	✓		
Eastern lake		✓			
Western lake					

The table above shows that the proposed interventions does no change to the original design and respects the heritage resources and its visual connectivity with the city.

4.2 DETAILS OF IDENTIFIED DESIGN ELEMENTS

4.2.1 RESTORATION OF FRONT GARDEN & FAÇADE LIGHTING

The Ujjayanta Palace building is set on a large Mughal Style Garden in the midst of a twin water front. The intervention aims at restoring its ancient garden characteristics, making the garden and water-fronts suitable for a pleasant and comfortable leisure place for the regular visitors and tourists. It will also facilitate the visitors to have protection from scorching sun while walking down the garden. The scope will include improvement in landscape, illumination, water channels, fountains, pathways, and general ambiance of the entire garden.

The Ujjayanta Palace Gardens are optimally located for use by both the neighbouring inhabitants as well as the flowing tourist traffic. It provides a quiet spot within the urban chaos of the city. The potential for use is undermined by the present scenario of neglect.

FIGURE 23 DETAILED MASTERPLAN OF THE FRONT GARDEN

After conducting a detailed study, followed by a situation analysis report and subsequent feasibility report, following major design requirements have been finalized:

- Restoration and renovation of all the water channels, including all the water fountains.
- Innovative development of underwater lighting throughout the channels and fountains.
- Development and beautification of garden spaces at the bank of twin lakes.
- Covering the drains and renovation of existing drainage system.
- Development of lake side walkway along with sitting arrangement, steps and pergolas.
- Pitching of edges of the lakes within the limitations of environmental norms.
- Repair of internal black top road leading to the palaces.

The proposed interventions on the site follow below:

FIGURE 24 PROPOSED VIEW OF THE FRONT GARDEN

4.2.1.1 LANDSCAPING & ARCHITECTURAL INTERVENTIONS

4.2.1.1.1 RESTORATION OF TWIN WATER BODIES

- Cleaning of edges of water bodies
- Green earth embankment along the periphery of both water bodies
- Stepped embankment where pergola and seating are proposed
- Heritage railing along periphery of water bodies with light posts (To be discontinued where the steps are coming).
- Walking pathway along the ponds edge.
- Pergola with readymade seating benches at different places on the edge of the water bodies.

FIGURE 26 GREEN EMBANKMENT ALONG THE POND EDGES BOUNDED WITH HERITAGE RAILINGS AND ADJACENT PEDESTRAIN PATHWAY

FIGURE 25 PROPOSED PERGOLA ABOVE STEPPED EMBANKMENT

4.2.1.1.2 RESTORATION OF CENTRAL PARK & WATER CHANNEL

- Installation of sculpture fountain on right and left end of the water channel.
- Along the central channel low height fountains to be installed.
- Along the channels small bubblers for aeration shall be installed.
- Suitable lighting for fountain and water channel.
- Necessary civil works like breaking, repairing, relaying of water channel, incorporating the plumbing and drainage requirement.
- Water proofing of entire water features
- Painting of water channel and fountain
- Hardscapes – Necessary repair of existing black top road
- New path way along water bodies, with pergola and seating at intervals

- Theme plantation & Horticulture work including replantation of existing trees (if required) to improve the garden
- Modification of drains and covering of open drains. The rain water from the premise flows southward and exits the premise and joins the main road side drain near Entrance Plaza. It has been observed that though there is local flooding of the road side drain along Lakshmi Narayana Bari Temple, there is no backflow into the premise. Observed are the growth of vegetation and silt accumulation in the drains inside the premise. The cleaning of drains is highly recommended.
- Painting of existing heritage railing

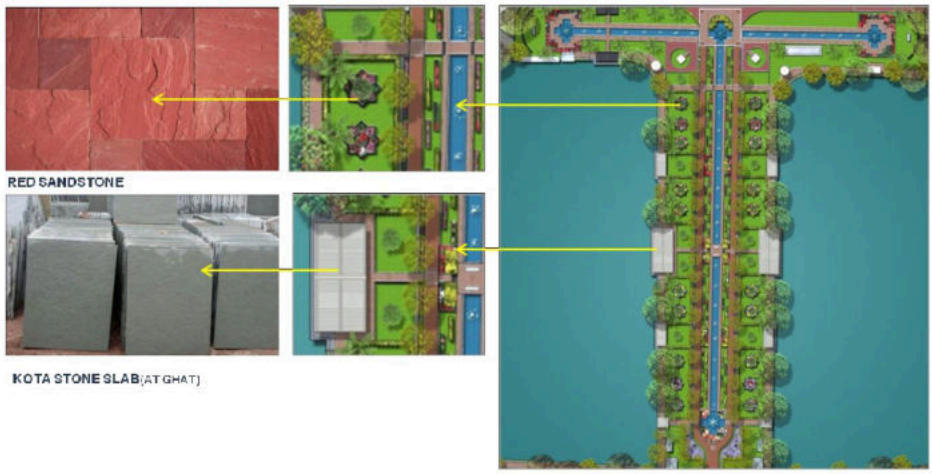

FIGURE 27 DETAILS OF HARDSCAPES IN THE CENTRAL PARK AREA

The plant material proposed comprises entirely of native and adapted species. The trees species include Michelia Champaca, Plumeria Alba, Bauhinia Blakeana, Saraca Indica, Peltophorum Interme and Plumeria Rubra. The proposed shrubs species on the site are Alpinia Veriegated, Murraya Exotica, Tabernaemontana Divaricata double, Dracena Waranickii, Hamelia Patens dwarf, Hibiscous Rosa- Sinesis, Hibiscous Rosa- Sinesis white, Ocimum Tenuflorum, Iresine Herbstii, Ophopogon Jaburan, Cuphea Chinensis and Vince.

4.2.1.1.3 ARCHITECTURAL

- Restoration of existing heritage structures like Chhattris with patchwork, plastering, painting, reinstating broken shapes, decorative lighting and cleaning of the statues.
- Construction of new railing along the water bodies keeping similarity with existing heritage railing.

FIGURE 28 NEW RAILINGS CONSTRUCTED KEEPING PARITY WITH THE HERITAGE ONES

4.2.1.1.4 MISCELLANEOUS WORK

- Attractive lighting and illumination of important feature of garden
- Irrigation system to cover all the softscape areas
- Garden furniture, like seating dustbin etc.
- Required signage.
- Modification of drainage network for entire site with suitable drain cover

FIGURE 29 LANDSCAPED GARDEN

4.2.1.2 FOUNTAINS

The palace compound is having several existing fountains. A few additional fountains are also proposed in the revised scheme. A schematic drawing is presented below to identify the fountains with different nomenclature.

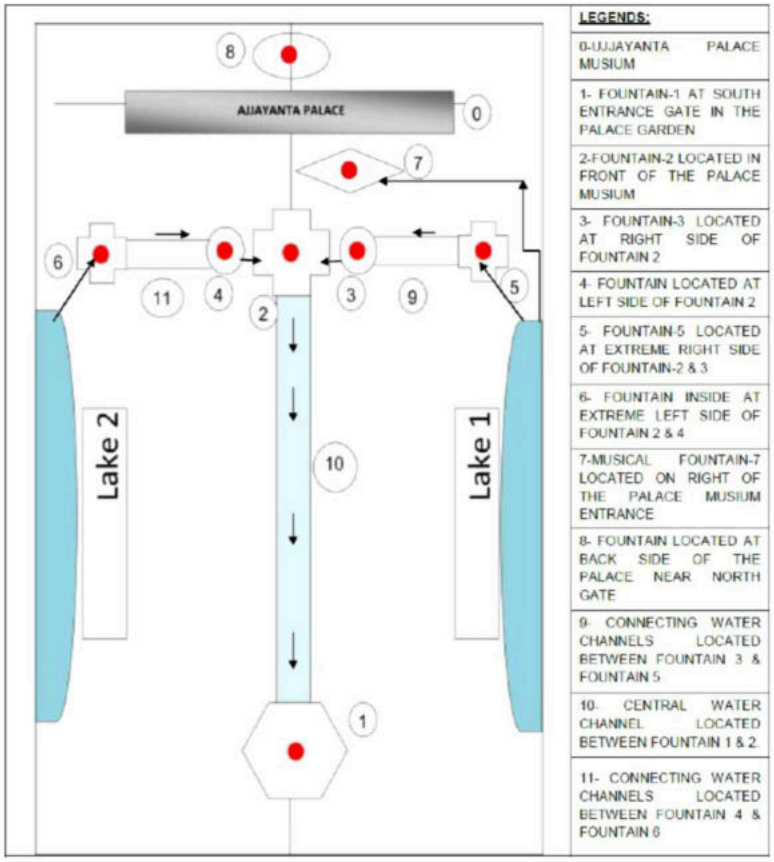

FIGURE 30 SCHEMATIC DIAGRAM OF FOUNTAINS

A comprehensive scheme prepared for renovation and reinstallation of different kinds of fountain is presented below:

4.2.1.2.1 PROPOSAL FOR FOUNTAIN NO. 1 & FOUNTAIN NO. 2

At the two extreme ends of the Central water Channel Standard Sculpture Fountains are proposed, with Submersible Pump. At one end the fountain will be placed on an elevated structure.

4.2.1.2.2 PROPOSAL FOR FOUNTAIN NO. 10

At the main water channel, which is almost 200m long, 21 number of Foam Jets are proposed at an Interval of 10m. These shall be water level independent jets and the height of the jets will be around 1.2m / 1.5m.

4.2.1.2.3 PROPOSAL FOR FOUNTAIN NO. 5 & FOUNTAIN NO. 6

Each Water channel is almost 70m long and there are two such water Channels. At the extreme far end of the water channel there will be sculptures. A foam Jet fountain is proposed at the top of each of the cascading structure. Water from the topmost part of the structure will cascade down to the middle tier to fall below at the ground level pool.

4.2.1.2.4 PROPOSAL FOR FOUNTAIN NO. 11 & FOUNTAIN NO. 9

There is a water channel running in east – west direction parallel to the palace. Considering the central fountain, this channel is divided into two stretches. In the schematic diagram these two stretches are marked as 9 and 11. Each of these stretches are proposed with eight nos of fountains at equal distance. Suitable foam jets shall be provided to form make low height fountains along the water channel.

4.2.1.2.5 PROPOSAL FOR FOUNTAIN NO. 4 & FOUNTAIN NO. 3

For fountain no. 4 and 3, four tier sculptural fountain is proposed. Height of such fountains shall be 4.5m.

4.2.1.2.6 PROPOSAL FOR FOUNTAIN NO. 8

Fountain no. 8 is located in the rear garden which is proposed to be refurbished.

Note: Fountain no.7 removed from the proposal.